

REMARKS

The Office Action dated July 14, 2005 has been received and carefully studied.

The Examiner rejects claims 9-12 under 35 U.S.C. §112, second paragraph, as being indefinite for various reasons. By the accompanying amendment, claim 9 has been amended to depend from claim 4, which provides proper antecedent basis for the term "said reflection plate". Claim 10 has been amended to depend from claim 5, which provides proper antecedent basis for the term "said optical crystal member". Claim 11 has been amended to depend from claim 6, which provides proper antecedent basis for the term "Q-sw element". Claim 12 has been amended to depend from claim 7, which in turn has been amended to depend from amended claims 2 or 3. Proper antecedent basis is now provided for the elements recited in claim 12.

The Examiner rejects claims 1, 4-5 and 8 under 35 U.S.C. §102(b) as anticipated by Ishimori et al., U.S. Patent No. 5,351,259. The Examiner states that Ishimori et al. disclose a semiconductor laser device comprising a semiconductor laser array for excitation having a plurality of semiconductor laser elements and an optical resonator having a solid-state laser medium with a reflection mirror formed on one end surface and an output mirror provided in parallel to the reflection mirror.

By the accompanying amendment, claim 1 has been cancelled, and claims 4, 5 and 8 have been amended to depend from claim 2 or 3. It is believed that the cancellation of claim 1 renders the rejection moot.

The Examiner rejects claims 6-7 and 9-16 under 35 U.S.C. §103(a) as being unpatentable over Ishimori et al. in view of Marshall et al., U.S. Patent No. 6,061,378. The Examiner admits that Ishimori et al. do not disclose a Q-sw to be located between the mirrors, and cites Marshall as teaching this feature.

The Examiner also rejects claim 2 under 35 U.S.C. §103(a) as being unpatentable over Ishimori et al. in view of Craig et al., U.S. Patent No. 5,761,234, and claims 3 and 17 as being unpatentable over Ishimori et al. and Craig et al., and further in view of Beach, U.S. Patent No. 5,689,522. Craig et al. is cited for its disclosure of a semiconductor device using solid-state medium pumping in which the semiconductor array and the pumped solid-state medium outputs are combined using an optical element. Beach is cited for its disclosure of a semiconductor laser array in which the individual array element beams are combined using a fiber bundling technique.

By the accompanying amendment, claims 2 and 3 have been amended to recite a polarizing optical element, and to recite that directions of polarization of the laser beams emitted from

two sets of light emitting units are deviated from each other, and the polarizing optical element superimposes the laser beams emitted from the two sets of light emitting units by reflecting one of the laser beams and by allowing the other of the laser beams to pass. Claims 2 and 3 also have been amended to recite that the solid-state laser medium and the output mirror are joined by using a spacer so as to form a gap. Support for the amendment can be found at pages 9-10 and 12-13 of the specification, for example. Claims 13 and 14 have been cancelled.

The present invention as now claimed recites a semiconductor laser device that can obtain a high-output laser beam without increasing the thermal burden on a solid-state laser medium. The device includes at least two sets of laser emitting units for independently oscillating laser beams emitted from a semiconductor laser array which has a plurality of semiconductor elements. The claimed device superimposes the laser beams from the two sets of light emitting units by using a polarizing plate. Accordingly, it is possible to superimpose the laser beams with a simple and compact structure.


Also, a solid-state laser medium and an output mirror, which constitute an optical resonator, are joined so as to form a gap. Accordingly, it is sufficient that the solid-state laser medium

and the output mirror which is formed on an output reflection plate have predetermined reflection characteristics and predetermined transmitting characteristics with respect air. As a result, film formation can be easily performed.

None of Ishimori et al., Marshall et al., Craig et al. or Beach discloses or suggests that the laser beams are superimposed by utilizing polarization of the laser beams and by using a polarizing optical element, and that the solid-state laser medium and the reflecting mirror are joined via a gap, as now claimed.

Reconsideration and allowance are respectfully requested in view of the foregoing.

Respectfully submitted,


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